

Data Acceptability Criteria for analysis of sediment total organic carbon and sediment grain size.

QA SAMPLE	QA MEASURE	MINIMUM FREQUENCY	CRITERIA	CORRECTIVE ACTION
Method Blank	Contamination by reagents, laboratory ware, etc.	One per batch. Grain size: N/A	< MDL or < 30% of lowest sample	Identify and eliminate contamination source. Reanalyze all samples in batch. Qualify data as needed.
Certified Reference Material	Accuracy	TOC: every 15 samples. Grain size: N/A.	Within 95% confidence interval of the certified value	Review raw data quantification reports. Check instrument response using calibration standard. Recalibrate and reanalyze CRM and samples. Repeat analysis until control limits are met.
Replicates	Precision	One per batch	RSD < 20% precision	Check calculations and instruments. Recalibrate and reanalyze. If problem persists, then identify and eliminate source of imprecision and reanalyze.
Laboratory control material (LCM)	Accuracy & Precision	One per batch of 20 or fewer samples. Grain size: N/A	Within 20–25% consensus value	Review raw data quantification reports. Check instrument response using calibration standard. Recalibrate and reanalyze CRM and samples. Repeat analysis until control limits are met.

MDL = method detection limit; RPD = relative percent difference; RSD = relative standard deviation

Sediment TOC

Blanks and a reference material supplied by the instrument manufacturer, Coulometrics, Inc. will be analyzed a minimum of three times daily during sample analysis.

Grain Size

Standard reference materials will be analyzed with every batch of samples. These include NIST SRM 1003b glass spheres and a narrow-sized garnet standard supplied by the instrument manufacturer. In addition, at least one sample in twelve will be analyzed in duplicate to determine precision. The precision criterion is $\pm 20\%$.